Seattle Public Utilities

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Seattle Climate Action NOW
SeattleCAN.org

For translation services please call 206-684-3000.

如需要口譯服務，請撥電話號碼206-684-3000.

통역 서비스를 원하시면 **206-684-3000**으로 전화하세요.

Wixii turjubaan afka ah ku saabsan, Fadlan la soo xariir taleefoonka: 206-684-3000.

Para servicios de interpretación por favor llame al 206-684-3000.

Para sa serbisyo ng tagapagpaliwanag, tumawag sa 206-684-3000.

Về dịch vụ phiên dịch xin gọi 206-684-3000.

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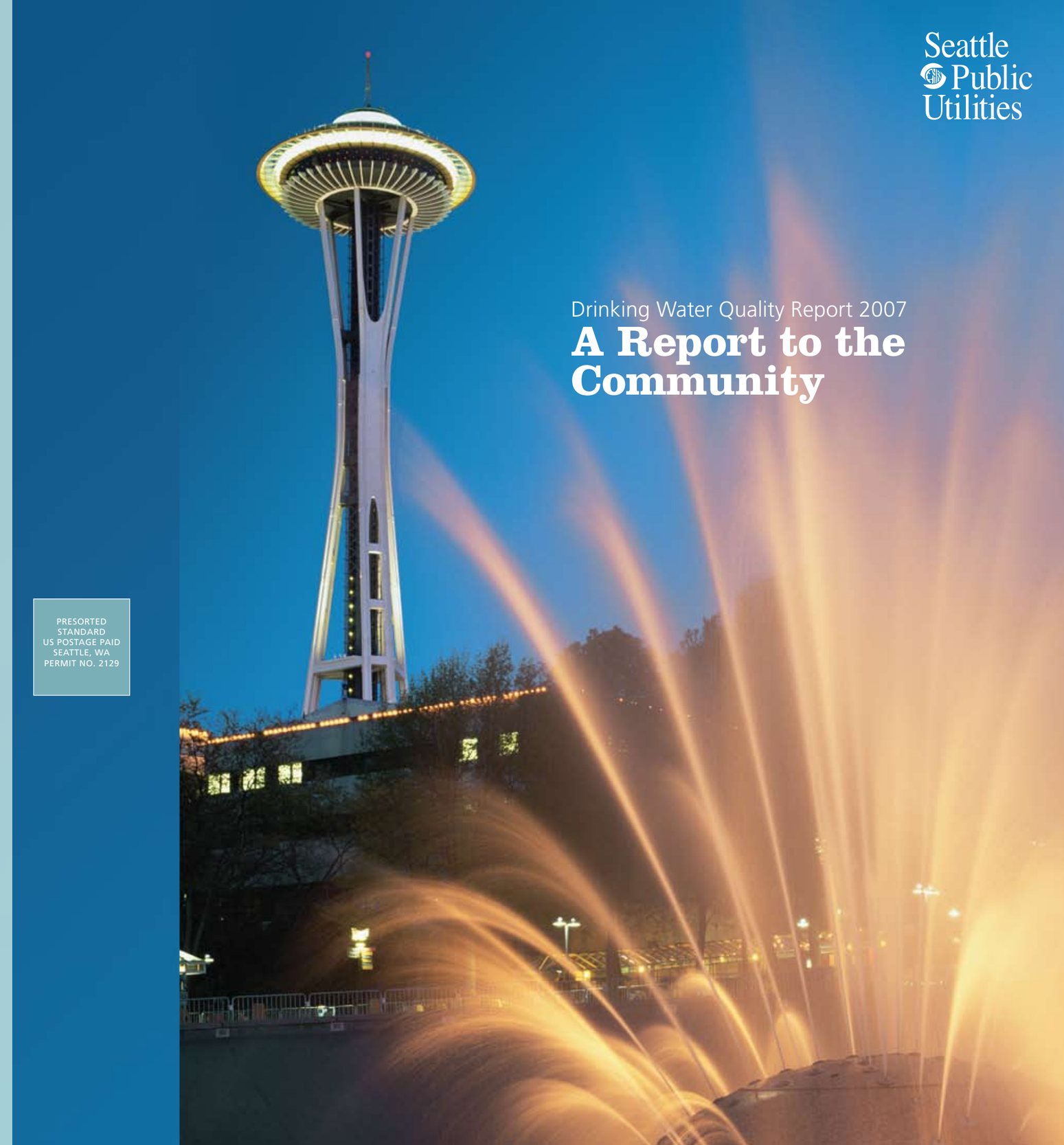


Seattle Public Utilities

Drinking Water Quality Report 2007

A Report to the Community

Letter from the Mayor

This Water Quality Report is really about you, the people served by Seattle Public Utilities. It's about how your water choices can impact the supply and the environment. It's about how we're protecting your water supply for quality and security. It's also about how we can partner to make sure we have the water we need today and tomorrow. And it's about how much you care about your community, your quality of life, and the environment.

We offer the "gold standard" in water quality. What flows from our taps is some of the finest tasting, purest-source water in the world. And Seattle's tap water is one of the best deals around — costing one-third of one cent per gallon. Compare that to bottled water which starts around 79 cents per pint and isn't any purer or safer.

So please take a moment to read this report about our drinking water and the impacts you can have on it. The choices you make today will change the world we live in tomorrow.

Yours in community partnership,

Greg Nickels
Seattle Mayor

Seattle Climate Action NOW
SeattleCAN.org

An infrastructure that is economical, environmental and community-oriented

Much of what makes up water quality is derived from how we manage our infrastructure: our watersheds and our treatment, transmission and distribution system — the pipes and tanks. And how we manage that infrastructure is based on the philosophy of the triple bottom line: is it cost-effective, is it environmentally responsible, and is it good for the entire community?

For example, because of how we manage our watersheds, using rain water and snow melt from pristine wilderness areas; we are able to treat the water less than other municipalities — with the resulting benefits of better taste and lower costs.

Of particular note this year is our ongoing progress to cover our reservoirs — and turning the new covered surfaces into open space. The resulting benefits? A cost-effective way to increase security, improve water quality and add acres of valuable new public space.

Another example of the triple bottom line is our practice of replacing aging pipes at the same time street improvements are made, saving money and avoiding user inconvenience. And an upcoming pumping station in the Cedar River Watershed will allow us to have more options for water management during droughts, as well as providing extra water for salmon when needed.

"We're proud to live in a city that manages it's resources so that our grandchildren won't have to worry about their drinking water supply."

Harry and Claudia Sampson
Madison Park

Water quality and you: the facts

To ensure that tap water is safe to drink, the Environmental Protection Agency and the Washington State Department of Health prescribe regulations that limit the amount of certain contaminants in water provided by public water systems. The Food and Drug Administration and the Washington State Department of Agriculture Regulations establish limits for contaminants in bottled water.

The sources of drinking water include rivers, lakes, streams, ponds, reservoirs, springs, and wells. As water travels over the surface of the land or through the ground, it dissolves naturally occurring minerals — in some cases, radioactive material — and can pick up substances resulting from the presence of animals or from human activity.

Two surface water sources provide the majority of water for the system: the Cedar River and the South Fork Tolt River. These two river systems begin in the Cascade Mountains and have very large protected watersheds.

Because they are publicly owned, SPU is able to vigorously safeguard its water sources through a comprehensive watershed protection program. This program prohibits agricultural, industrial, recreational activities and human habitation in the watersheds. This means there is little opportunity for contaminants to enter the water. Even so, there is always some potential for natural sources of contamination.

Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of contaminants does not necessarily indicate that water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the Environmental Protection Agency's Safe Drinking Water Hotline at 800-426-4791.

In Seattle's surface water supplies, potential sources of contamination include:

- Microbial contaminants, such as viruses, bacteria, and protozoa from wildlife.
- Inorganic contaminants, such as salts and metals, which are naturally occurring.
- Organic contaminants, which result from chlorine combining with the naturally occurring organic matter.

Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised persons — such as people with cancer undergoing chemotherapy, persons who have received organ transplants, people with HIV/AIDS or other immune system disorders, and some elderly and infants — can be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. Environmental Protection Agency/Centers for Disease Control guidelines on appropriate means to lessen the risk of infection by Cryptosporidium and other microbial contaminants are available from the Safe Drinking Water Hotline at 800-426-4791.

Seattle Public Utilities also owns three wells located in the Burien area, which can be used to meet summer peak demand. These wells were not used in 2007.

Washington's Source Water Assessment Program is conducted by the Department of Health (DOH) Office of Drinking Water. According to DOH, all surface waters in Washington are given a susceptibility rating of "high," regardless of whether contaminants have been detected or whether there are any sources of contaminants in the watershed. The Seattle wells have been given a susceptibility rating of "low" because of the type of aquifer, depth of well, and lack of contaminant detection. Information on the source water assessments is available from the DOH website at http://www.doh.wa.gov/ehp/dw/default.htm.

MORE INFORMATION

Seattle Public Utilities
Customer Service Center
206-684-3000

Water Quality
206-615-0827
seattle.gov/util/services/Water/Water_Quality
drinkingwater.quality@seattle.gov

Water Conservation
savingwater.org

Washington State Dept. of Health
doh.wa.gov/ehp/dw/

U.S. Environmental Protection Agency
epa.gov/safewater/

Safe Drinking Water Act Hotline
800-426-4791
hotline-sdwa@epamail.epa.gov

Seattle Public Utilities

Our results

The results of monitoring in 2007 are shown in the table below. For other water quality information, please check http://www.seattle.gov/util/services/ or call 206-615-0827. We can also send you a list of the 179 compounds which were tested for, but not found, in our surface water supplies, including unregulated contaminants.

In Seattle, if you live south of Green Lake, your water probably comes from the Cedar River Watershed. Areas north of Green Lake usually receive Tolt River Watershed water.

		EPA's Allowable Limits		Levels in Cedar Water		Levels in Tolt Water		
Detected Compounds	Units	MCLG	MCL	Average	Range	Average	Range	Typical Sources
Raw Water								
Total Organic Carbon	ppm	NA	TT	0.6	0.3 to 1.0	1.4	1.3 to 1.6	Naturally present in the environment
Cryptosporidium	#/100L	NA	NA	ND	ND to 4	ND	ND	Naturally present in the environment
Finished Water								
Turbidity	NTU	NA	TT	0.6	0.2 to 1.9	0.06	0.01 to 0.38	Soil runoff
Fluoride	ppm	4	4	0.85	0.6 to 1.0	1.0	0.2 to 1.1	Water additive, which promotes strong teeth
Barium	ppb	2000	2000	1.9	one sample	2.2	one sample	Erosion of natural deposits
Nitrate	ppm	10	10	0.045	one sample	0.093	one sample	Erosion of natural deposits
Total Trihalomethanes	ppb	NA	80	31	10 to 42	45	12 to 68	By-products of drinking water chlorination
Haloacetic Acids(5)	ppb	NA	60	22	13 to 35	33	13 to 40	
Total Coliform	Percent positive samples	0	5 percent	Highest Month = 1.2 Percent Annual Average = 0.2 Percent				Naturally present in the environment
Chlorine	ppm	MRDLG = 4	MRDLG = 4	Average = 0.86 Range = 0 to 1.8				Water additive used to control microbes

Note: Cryptosporidium was detected in four of ten samples from the Cedar and zero of eight samples from the Tolt.

Definitions:

MCLG: Contaminant Level Goal - The level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs allow for a margin of safety.

MCL: Maximum Contaminant Level - The highest level of a contaminant that is allowed in drinking water. MCLs are set as close to the MCLGs as feasible using the best available treatment technology.

MRDL: Maximum Residual Disinfectant Level - The highest level of a disinfectant allowed in drinking water. There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants.

MRDLG: Maximum Residual Disinfectant Level Goal - The level of a drinking water disinfectant below which there is no known or expected risk to health. MRDLGs do not reflect the benefits of the use of disinfectants to control microbial contaminants.

TT: Treatment Technique - A required process intended to reduce the level of a contaminant in drinking water.

NTU: Nephelometric Turbidity Unit - Turbidity is a measure of how clear the water looks. The turbidity MCL that applied to the Cedar supply in 2007 was 5 NTU, and for the Tolt it was 0.3 NTU for at least 95 percent of the samples in a month. 100 percent of the samples from the Tolt in 2007 were below 0.3 NTU in 11 of the 12 months. For one month, the turbidity was less than 0.3 for 99.98 percent of the time.

NA: Not Applicable

ND: Not Detected

ppm: 1 part per million = 1 mg/L = 1 milligram per liter

ppb: 1 part per billion = 1 ug/L = 1 microgram per liter

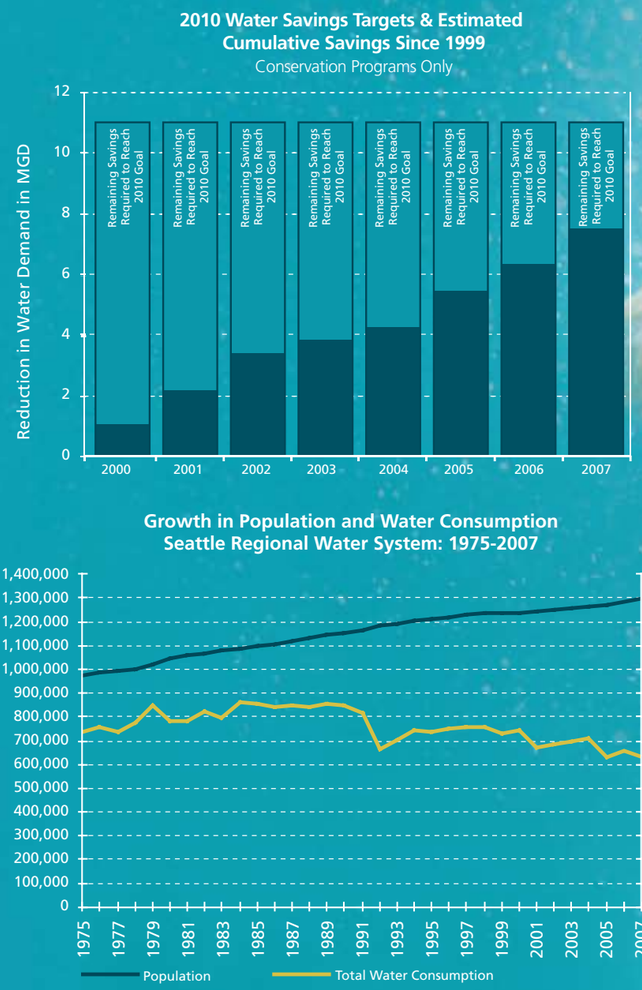
1 ppm =1000 ppb

Lead and Copper Monitoring Results

Parameter and Units	MCLG	Action Level+	2007 Results*	Homes Exceeding Action Level	Source
Lead, ppb	0	15	6	1 of 50	Corrosion of household plumbing systems
Copper, ppm	1.3	1.3	0.14	0 of 50	

* 90th Percentile: i.e. 90 percent of the samples were less than the values shown.
\+ The concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.

Only homes that are high risk — those with lead pipes and solder — are monitored.



Moving toward tap water — and away from bottled water.

Seattle-area residents are leading the country when it comes to speaking out and acting on our big picture environmental issues, such as climate change and minimizing our carbon footprint. More so than many other regions, we know that working together we can make a difference.

For instance, take drinking tap water instead of bottled. Bottled water costs 2400 times as much as tap water — which runs about one-third of one cent per gallon compared to 79 cents per pint for bottled water. In 2006, Americans bought more than 60 billion pints of bottled water, requiring nearly 900,000 tons of plastic (produced from fossil fuels) and more than 17 million barrels of oil, not including the energy for transportation. That adds up to more than 2.5 million tons of greenhouse gases generated that could have been avoided by drinking tap water.

Seattle Public Utilities also is leading the climate change charge by collaborating with other large urban water utilities to create the Water Utility Climate Alliance. This alliance is dedicated to providing leadership on climate change issues affecting drinking water utilities by improving research, developing adaptation strategies and creating mitigation approaches to reduce greenhouse gas emissions.

"As a mom with two children, it is so nice to know that our drinking water is the best in North America and that even bottled water can't make that claim."

Alexis Ortega
Lake City

Partners in conservation

Water conservation is community partnership at its best and Seattle and its drinking water partners are leading the country. It's where you have the most power to ensure we have enough for future generations, to manage your water and energy bills, to help the salmon and to gain low-cost insurance for any climate-change-related water supply issues. And we've accomplished a lot: since 1990, the population of the area served by Seattle's regional system has increased by 16 percent while water consumption has declined by 26 percent. On a per-person basis, total water consumption has decreased 36 percent from 152 gallons to less than 100 gallons per person per day. As a result, we have extended our existing water supply and postponed the need to develop new sources by many decades.

SPU's regional water system supplied 45.9 billion gallons of drinking water to its retail and wholesale service areas in 2007. Of this, less than 1.2 billion gallons was lost to leakage. Expressed as a percentage of water supplied to Seattle's retail service area, the leakage rate was only 5 percent[1], which is very low compared to most water utilities.

SPU is a member of the Saving Water Partnership, a group of 18 local utilities that has adopted a regional water conservation goal of 11 million gallons per day (mgd) by 2010. In 2007, the program achieved 1.28 mgd of savings, and is on track to meet the 2010 goal. Since the year 2000, we have now achieved 7.5 mgd (68 percent) of the 11 mgd 2010 goal.

Through the Saving Water Partnership, we are happy to report on the following additional successes in 2007:

- We mailed high-efficiency showerheads to nearly 80,000 single-family residential customers, saving significant amounts of water and energy.
- We provided 7,000 WashWise rebates for efficient clothes washers.
- We launched educational efforts to introduce high-efficiency toilets that are 20 percent more efficient than standard (1.6 gallon per flush) models.
- We promoted in-ground sprinkler controllers that adjust to the weather and reduce water use by up to 30 percent and worked with area nurseries to promote water-wise plantings.

"Thanks to the city's water conservation programs, we are saving 250,000 gallons per year in our operations — that adds up to some big savings for our bottom line."

Lee Brei, Director, Facilities Services,
Swedish Medical Center

[1]For SPU's regional water system (Seattle and wholesale utilities), just 2.6% of the total supplied was lost to leakage.

Measures of Water Consumption for Saving Water Partnership Utilities*: 1990, 2000 & 2007

	1990	2000	2007	Percent Change Since 1990	Percent Change Since 2000
Total Billed Water Consumption	121 mgd	108 mgd	94 mgd	-23%	-13%
Residential Consumption	79 mgd	72 mgd	64 mgd	-19%	-12%
Non-Residential Consumption**	43 mgd	35 mgd	30 mgd	-30%	-15%
Avg. Single Family Use per Household	231 gpd	194 gpd	166 gpd	-28%	-15%
Avg. Multifamily Use per Household	142 gpd	120 gpd	100 gpd	-30%	-17%
Residential: Avg. Use per Person	84 gpd	70 gpd	60 gpd	-29%	-15%
Non-Residential: Avg. Use per Employee**	71 gpd	51 gpd	45 gpd	-37%	-11%

mgd = millions of gallons per day **gpd** = gallons per day

** While most of the decrease in non-residential consumption is due to conservation, some of it is due to changes in the economy. During times of economic slowdown, water consumption tends to decrease.

Here are some tips to help you conserve water and manage your utility bills:

- Take shorter showers (aim for 5 minutes or less)
- Fix leaks (check your toilets for a leaking flapper once a year)
- Wash full loads of clothes and dishes
- If you have a yard, build healthy soil for healthy plants
- Water deeply and infrequently in the summer
- Check our web site to find out about appliance, irrigation, and other rebates

To find out more ways to conserve, go to savingwater.org or call 206.684.SAVE (7283).

*Members of the Saving Water Partnership:

- City of Bothell
- City of Duvall
- City of Mercer Island
- City of Seattle
- Cedar River Water & Sewer District
- Coal Creek Utility District
- Highline Water District
- King CountyWater District No. 20
- King CountyWater District No. 45
- King CountyWater District No. 49
- King CountyWater District No. 90
- King CountyWater District No. 119
- King CountyWater District No. 125
- Northshore Utility District
- Olympic View Water & Sewer District
- Shoreline Water District
- Soos Creek Water & Sewer District
- Woodinville Water District